Annual Reporting for FY 2009-2010

Regional Supplement for Pollutants of Concern and Monitoring

San Francisco Bay Area Municipal Regional Stormwater Permit

B A S M A A

Bay Area Stormwater Management Agencies Association

September 2010

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INTRODUCTION

This Regional Supplement has been prepared to report on regionally-implemented activities that comply with portions of the Municipal Regional Stormwater Permit (MRP), issued to 76 municipalities and special districts (Permittees) by the San Francisco Bay Regional Water Quality Control Board (Water Board). The Regional Supplement describes regionally-implemented activities conducted under the auspices of the Bay Area Stormwater Management Agencies Association (BASMAA)[1], in compliance with the following MRP provisions:

- Provision C.8 (Water Quality Monitoring); and
- Portions of Provisions C.9, C.11, C.12, C.13 and C.14, collectively referred to as "Pollutants of Concern" (POCs).

The 2010 annual reporting requirements for MRP Provisions covered in this Regional Supplement are completely met by BASMAA Regional Project activities, except where otherwise noted. Scopes, budgets and contracting or in-kind project implementation mechanisms for BASMAA Regional Projects follow BASMAA's Operational Policies and Procedures as approved by the BASMAA Board of Directors (BOD). MRP Permittees, through their program representatives on the BOD and its subcommittees, collaboratively authorize and participate in BASMAA Regional Projects or Regional Tasks. Regional Project costs are shared by either all BASMAA members or among those Phase I programs that are subject to the MRP[2][3].

This Regional Supplement does not include separate reporting products that will be required in future years by the following MRP provisions:

- C.8.g.ii Electronic Status Monitoring Data Reports;
- C.8.g.iii or v Urban Creeks Monitoring or Integrated Monitoring Reports; and
- C.8.g.iv Monitoring Project Reports.

The above Provision C.8.g reporting requirements cover most data collection activities required in C.8. While MRP C.8.g reporting is not required for the 2010 Annual Report, in Fiscal Year (FY) 2009-10 the Permittees initiated several Regional Projects for planning and development of tools needed to coordinate and support those data collection and reporting functions, described below in the section on Water Quality Monitoring.

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[1] BASMAA is a 501(c)(3) non-profit organization comprised of the municipal stormwater programs in the San Francisco Bay Area.

[2] The BASMAA programs supporting MRP Regional Projects include all MRP Permittees as well as the cities of Antioch, Brentwood, and Oakley which are not named as Permittees under the MRP but have voluntarily elected to participate in MRP-related regional activities with the expectation that regionally coordinated activities undertaken by the Contra Costa Clean Water Program and other BASMAA partners will fulfill requirements that will be established by the Central Valley Regional Water Quality Control Board through its separate NPDES permit regulating stormwater discharges from eastern Contra Costa County.

[3] Additional activities related to the Pollutants of Concern or Water Quality Monitoring provisions reported here may have been conducted during FY 2009-10 by individual Permittees or groups of Permittees acting through a joint stormwater program. Summaries of these activities contained in annual reports submitted by Permittees or programs may include information that was not required by the MRP, or activities performed for regional compliance with MRP provisions but not approved as part of a Regional Project by the time this Regional Supplement was completed.

POLLUTANTS OF CONCERN

Provisions C.9 through C.14 of the MRP address pollutants that the Water Board has identified as potentially contributing to water quality concerns for the San Francisco Bay and/or local waterbodies. These pollutants are referred to as "pollutants of concern" (POCs). For some POCs, water quality attainment strategies have been adopted such as Total Maximum Daily Loads (TMDLs).

For mercury, polychlorinated biphenyls (PCBs) and other sediment-bound pollutants, the Water Board has proposed to implement control measures through MRP using four modes or levels described in the following framework:

1. Full-scale implementation throughout the region;
2. Focused implementation in areas where benefits are most likely to accrue;
3. Pilot-testing in a few specific locations; and
4. Other: This may refer to experimental control measures, Research and Development, desktop analysis, laboratory studies, and/or literature review.

Many Regional Projects reported in this section focus on MRP provisions relating to modes 3 and 4, which require studies or pilot projects intended to reduce uncertainties about the sources, occurrence or effectiveness of control measures for POCs. Other Tasks will be implemented through participation in regional or state-wide collaborative initiatives, such as:

- The Regional Monitoring Program for Water Quality in the San Francisco Estuary (RMP), described in more detail under Provision C.8.b below; and
- Initiatives to control sources of specific pollutants (e.g., Clean Watersheds for a Clean Bay project).

PESTICIDES TOXICITY CONTROL (C.9)

C.9.e Track and Participate in Relevant Regulatory Processes

The essential requirements of this provision are to track USEPA and DPR actions related to urban-use pesticides and actively participate in the shaping of regulatory efforts underway. This provision allows for cooperation among Permittees through the California Stormwater Quality Association (CASQA), BASMAA and/or the Urban Pesticide Pollution Prevention Project (UP3 Project). Recognizing that this approach is the most likely to result in meaningful changes in the regulatory environment, Permittees elected to take this route to achieve compliance with this provision. A project profile was developed by the BASMAA Monitoring and POCs Committee (MPC) to fund the reporting element of this task and the BASMAA Board of Directors (BOD) subsequently approved this Regional Project in May 2010.

The actual work of tracking and participating in the ongoing regulatory efforts related to pesticides was accomplished through BASMAA member participation in the UP3, as well the chairpersonship of the CASQA Pesticides Subcommittee. Permittees have been working with the UP3 project as well as the CASQA Pesticides Subcommittee for a number of years, so there was no lag time associated with compliance as the committee structures and membership were already fully engaged before the MRP was adopted. As a result, FY 2009-10 was very productive. Details of the specific achievements of this year can be found in the attached report, "Pesticide Regulation for Water Quality Protection, Annual BASMAA Participation Summary and Outcomes Assessment, 2010" prepared by TDC Environmental, LLC. (Appendix A1)

C.9.g Evaluate Implementation of Source Control Actions Relating to Pesticides

There are no Annual Reporting requirements for Provision C.9.g in 2010. In future years, additional information will be provided on the status of implementation activities designed to comply with this provision.

JOINT MERCURY AND POLYCHLORINATED BIPHENYLS (PCBS) CONTROLS (C.11 AND C.12)

Provisions C.11.c through Provision C.11.g for mercury are essentially identical to Provisions C.12.c through C.12.g for PCBs. This reflects similarities between the respective TMDLs for these pollutants, based on the legacy and sediment-associated nature of their occurrence. For Provisions C.11/12.c through C.11/12.f, MRP requirements focus on pilot studies; sites for these pilots will primarily be chosen on the basis of the potential for reducing PCB loads, but consideration will be given to mercury removal in the final design and implementation of the studies. Provisions C.11.i and C.12.i are also written identically, since fish consumption is a primary concern for both mercury and PCBs.

Clean Watersheds for a Clean Bay (CW4CB) is a new project funded by a grant to BASMAA from the US Environmental Protection Agency (USEPA). Implementation of the CW4CB project will result in Permittee compliance with the following MRP provisions:

- C.11/12.c - Pilot Projects To Investigate and Abate Mercury/PCB Sources;
- C.11/12.d - Pilot Projects to Evaluate and Enhance Municipal Sediment Removal and Management Practices;
- C.11/12.e. - Conduct Pilot Projects to Evaluate On-Site Stormwater Treatment via Retrofit; and
- C.11/12.i - Development of a Risk Reduction Program Implemented Throughout the Region.

The project is a partnership of Bay Area municipalities and countywide municipal stormwater management agencies. The CW4CB's overarching objective is to

implement priority actions called for by the San Francisco Bay PCBs and mercury Total Maximum Daily Load (TMDL) water quality restoration programs[4] including developing and pilot-testing a variety of methods to potentially reduce urban runoff loading of PCBs and mercury to the Bay. BASMAA will receive $5.0 million in funding from the USEPA's San Francisco Bay Area Water Quality Improvement Fund towards the $6.84 million total project cost. The remaining $1.84 million (about 27% of the total project cost) will be contributed by BASMAA and six of the Bay Area countywide stormwater management programs as a match to the funding received from the USEPA. In addition, in-kind assistance from participating Permittee staff will provide additional resources to leverage the project effort. Appendix A2 contains the CW4CB project work plan, which was approved by the USEPA on July 1, 2010.

The CW4CB project management team consisting of BASMAA's Executive Director and representatives from several BASMAA agencies and participating Permittees provides project oversight and coordination. The team meets monthly on second Wednesday of each month to discuss the status of the project, implementation of tasks, and coordination among project participants.

Appendix A3 is a memorandum describing the CW4CB project's current status. It should be noted that the project started significantly later than originally anticipated. USEPA's original Request for Proposal included an anticipated award date of February 2010. However, despite USEPA's and BASMAA's best efforts to expedite the process, USEPA was not able to provide BASMAA with an assistance agreement until June 2010 which resulted in a project start date of July 1, 2010. Thus project implementation is currently at a very early stage.

C.11/12.c Pilot Projects To Investigate and Abate Mercury/PCB Sources

Provisions C.11/12.c. require that Permittees work collaboratively to identify five Bay Area watershed areas that contain high levels of mercury and/or PCBs and conduct pilot projects to investigate and abate these high mercury and/or PCB concentrations. The CW4CB has developed proposed criteria to inform selection of the five watershed areas and is currently performing a comprehensive review of existing data relevant to the selection. Most of these data were originally compiled and made available by the Regional Stormwater Monitoring and Urban BMP Evaluation Project conducted by the San Francisco Estuary Institute (SFEI). The SFEI study investigated options for better managing mercury and PCBs in urban stormwater and was conducted in collaboration with BASMAA and the Water Board. It was funded through a grant from the State of California Proposition 13 stormwater non-point-source program. The SFEI recently completed the study and is currently updating a web site that will make the project data and results readily available. The memorandum in Appendix A3 provides additional details about the watershed selection process and status.

[4]The MRP implements those TMDL actions related to stormwater runoff.

C.11/12.d Pilot Projects to Evaluate and Enhance Municipal Sediment Removal and Management Practices

Provisions C.11/12.d of the MRP require that Permittees work collaboratively to develop and pilot-test methods to enhance removal of sediment with PCBs and mercury, mainly during existing municipal street and storm drain system operation and maintenance activities. Permittees are required to conduct this pilot work in the five pilot watersheds selected for Provisions C.11/12.c. The evaluation will include typical routine municipal operation and maintenance practices such as street sweeping, catch basin cleaning, and stormwater conveyance system cleaning, and will also include consideration of street flushing with routing of wash water to a sanitary sewer. Evaluation of existing information on high-efficiency street sweepers is also a specific C.11/12.d requirement. Permittees are required to submit a progress report on the results of these two evaluations in this 2010 Annual Report and the final evaluation results in the 2011 Annual Report. As described in the memorandum in Appendix A3, BASMAA agencies have initiated a comprehensive review of existing literature and other information relevant to the evaluations.

C.11/12.e - Conduct Pilot Projects to Evaluate On-Site Stormwater Treatment via Retrofit

Provisions C.11/12.e require that Permittees retrofit PCB and mercury treatment systems into existing storm drainage infrastructure at ten locations throughout the Permittees' jurisdictions and evaluate effectiveness. It is anticipated that some but not all of the retrofits will be sited within the five pilot watersheds identified through Provisions C.11/12.c. Permittees are required to install at least one retrofit in each of five major Bay Area counties covered by the MRP (Santa Clara, San Mateo, Alameda, Contra Costa, and Solano) and report on candidate locations with types of treatment retrofit for each location in the September 2011 Annual Report. This effort is at an early stage and has consisted to-date of initial conceptual discussions at project management team meetings. The project management team is also working with USEPA to better define procurement rules related to retention of consultants to assist with the project. The initial project need is to obtain a consultant to perform an initial conceptual screening of treatment retrofits potentially applicable to this project.

C.11/12.i Development of a Risk Reduction Program Implemented throughout the Region

Provisions C.11/12.i require that Permittees implement a regional program of risk communication activities to raise public awareness of fish contamination issues in San Francisco Bay and to encourage fish-consuming populations to reduce their exposure to pollutants in contaminated fish. These provisions require that Permittees submit in this 2010 Annual Report the specific manner in which these risk reduction activities will be accomplished and the associated schedule for their implementation. Task 6 of the CW4CB project work plan in Appendix A2 includes a description of the tasks that will be conducted via the project to raise public awareness and encourage reduction of exposure. Table 3 of the CW4CB project work plan includes the Task 6 schedule.

C.11/12.f Diversion of Dry Weather and First Flush Flows to POTWs

Provisions C.11.f and C.12.f are nearly identical provisions for control of mercury (C.11) and PCBs (C.12) requiring the evaluation of diversion of dry weather urban runoff and first flush events into publicly owned treatment works (POTWs). The first product required under these provisions is a feasibility evaluation to be included in the 2010 Annual Report. The feasibility evaluation is to include, but is not limited to, costs, benefits, and impacts on the stormwater and wastewater agencies and the receiving waters relevant to the diversion and treatment of the dry weather and first flush flows. The report entitled "Stormwater Pump Station Diversions Feasibility Evaluation (AppendixA4) summarizes the feasibility evaluation including:

- Proposed selection criteria to inform the identification of five candidate and five alternate pump stations;
- Draft proposed time schedules for conducting pilot studies; and
- A draft proposed method for distributing mercury and PCBs load reductions to participating wastewater and stormwater agencies.

To comply with provisions C.11.f and C.12.f, BASMAA chose to approach this project as a Regional Project and a number of steps were taken to carry it out in FY 2009-10. A detailed scope of work was developed in the January – April 2010 time frame and the firm of Brown and Caldwell was retained to perform the work. Brown and Caldwell's work was directed and overseen by a Technical Oversight Committee (TOC) made up of BASMAA participants that recently began meeting on the afternoon of the second Wednesday of each month. This first TOC meeting was held July 14, 2010 during which a draft technical memorandum was reviewed that presented selection criteria for pump station projects. Data gathered to date were also reviewed by the TOC and direction was provided for completion of the feasibility evaluation report.

Following completion of the feasibility evaluation report, the oversight committee will identify how best to support programs and / or individual Permittees in using the report to scope out candidate pilot projects that are required to be completed during this permit term, for reporting in the 2014 Integrated Monitoring Report.

C.11/12.g Monitor Stormwater Pollutant Loads and Loads Reduced

Provisions C.11.g and C.12.g require Permittees to develop and implement a monitoring program to quantify mercury and PCB loads and loads reduced through source control, treatment and other management measures implemented by Permittees. Average annual mercury (160 kg/yr) and PCB (20 kg/yr) loads to the San Francisco Bay from urban (and non-urban) runoff discharges have been calculated by the Water Board through the development of Total Maximum Daily Loads (TMDLs) for these pollutants. Over the next five years, refinement of PCB and mercury loading estimates will occur through the implementation of POC Monitoring required by Provision C.8.e, and associated technical studies coordinated through the BASMAA Regional Monitoring Coalition (see Water Quality Monitoring Section) and the Regional Monitoring Program for Water Quality in the San Francisco Estuary (RMP). These loading

estimates provide a baseline to which compliance with TMDL Waste Load Allocations (WLAs) issued to Bay Area stormwater agencies can be determined.

Through a BASMAA Regional Project in FY 2009-10, preliminary draft methods to assess Permittee progress towards TMDL milestones and attainment of WLAs began to be developed. This project is intended to assist Permittees in calculating PCB and mercury loads reduced through stormwater management measures. The regional project entails the review of existing information on loads reduced methodologies developed through other recent efforts (e.g., SFEI Proposition 13 Urban Runoff BMP Project) and development of draft loads reduced formulas for specific stormwater management measures.

A Working Draft Technical Memorandum is provided in Appendix A5 that describes preliminary loads reduced methodologies for PCBs and mercury. This Technical Memorandum is a work-in-progress that requires additional feedback and revisions based upon Permittee review. During FY 2010-11, the Draft Technical Memorandum will be further developed and presented to Water Board staff for discussion and input. After further revisions, a Final Technical Memorandum will be developed and made available to Permittees to use as a tool to account for pollutant reductions that are attributable to specific stormwater management measures implemented by Permittees, and assess progress towards PCB and Mercury TMDL WLAs.

MERCURY CONTROLS (C.11)

This section describes regional activities designed to comply with specific requirements in MRP Provision C.11 that are not connected to parallel PCB provisions in C.12.

C.11.b Monitor Methylmercury

MRP Provision C.11.b duplicates the requirement in Provision C.8.g - to report results of methyl mercury monitoring required in Provision C.8.e. Per the schedule for commencement of monitoring described in the Water Quality Monitoring section of this report below, there is no data collection to report for FY 2009-10.

C.11.h Fate and Transport Study of Mercury in Urban Runoff

This MRP provision requires Permittees to conduct, or cause to be conducted, studies aimed at better understanding the fate, transport, and biological uptake of mercury discharged in urban runoff to San Francisco Bay and tidal areas. The 2010 annual reporting requirement includes a work plan describing the specific manner in which these information needs will be accomplished and describing the studies to be performed with a schedule.

This requirement is met through the RMP, which has approved a Mercury Synthesis project in 2011 (Appendix A6). The RMP Master Planning process incorporates several

Strategies to address pollutant-specific information needs and support management decisions through investigation of prioritized Management Questions. The RMP Mercury Strategy previously funded a multi-year suite of special studies being completed in 2010. The synthesis will combine results and noteworthy findings from recent Status and Trends monitoring to set the stage for a new multi-year plan for RMP studies in 2012 and beyond. Ongoing or projected future RMP efforts for the Mercury Strategy also include:

- Monitoring of mercury, PCBs and other pollutants in biota, both ongoing (Status & Trends) and in a special 3-year study of Small Fish living along the Bay margins that are an important link in the Bay food web (funded 2008-2010); and
- Development of conceptual models of transport and food web uptake for mercury and PCBs, and Bay Margin areas that will be incorporated with a planned water-sediment-contaminant model linking small tributary inputs to Bay processes.

In FY 2010-11, BASMAA representatives will continue participating in RMP Work Groups and committees to ensure future implementation of studies that meet the MRP's stated information needs, which include understanding the in-Bay transport of mercury discharged in urban runoff, the influence of urban runoff on the patterns of food web mercury accumulation, and the identification of drainages where urban runoff mercury is particularly important in food web accumulation.

C.11.j Develop Allocation Sharing Scheme with Caltrans

Wasteload allocations (WLAs) assigned to urban stormwater dischargers through the San Francisco Bay Mercury TMDL implicitly include California Department of Transportation (Caltrans) roadway and non-roadway facilities within the geographic boundaries of MRP Permittees. Provision C.11.j, requires Permittees to develop an equitable mercury allocation-sharing scheme in consultation with Caltrans to address the Caltrans facilities in the program area, and report the details to the Water Board.

In an effort to begin the development of an equitable mercury allocation-sharing scheme in FY 2009-10, the BASMAA regional technical lead for the mercury TMDL (on behalf of all Permittees) contacted lead Water Board and CalTrans staff to set a course for working collaboratively on this project. Based on these discussions, technical staff representing Permittees and CalTrans will meet in FY 10-11 to assess agency perspectives, potential methods for sharing allocations, and future collaborative efforts to reduce mercury impairment in San Francisco Bay. Additional information on the progress of collaboratively developing an allocation-sharing scheme between Permittees and CalTrans will be provided in the 2011 and subsequent Annual Reports.

PCB CONTROLS (C.12)

This section describes regional activities designed to comply with specific requirements in MRP Provision C.12 that are not connected to parallel mercury provisions in C.11.

C.12.a Identification of PCBs and PCB-Containing Equipment During Industrial Inspections

Provision C.12.a requires Permittees to develop training materials and train municipal industrial facility inspectors to identify, in the course of their existing inspections, PCBs or PCB-containing equipment. Additionally, Permittees are required to incorporate such PCB identification into existing industrial inspection programs. To assist Permittees in complying with this provision, the BASMAA Board of Directors (BOD) agreed to fund a regional project in FY 2009-10 to develop training material for stormwater inspectors. The scope of the project was to develop regional training and reporting materials to assist commercial/industrial facility stormwater inspectors in identifying PCBs, copper and mercury during their inspections, and provide inspectors with useful Best Management Practices (BMPs) and information materials for distribution to facility owners/operators. The draft training materials were completed in late FY 2009-10 and included a guidance manual for stormwater inspectors (see Appendix A7), inspection form templates, power point training presentation and example BMP materials. Results of training conducted by Permittees in FY 2009-10 are included in Permittee-specific Annual Reports.

C.12.b Conduct Pilot Projects to Evaluate Managing PCB-Containing Materials and Wastes during Building Demolition and Renovation (e.g., Window Replacement) Activities

Provision C.12.b requires that Permittees conduct pilot projects to evaluate managing PCB-containing materials and wastes during building demolition and renovation, including some activities that may not require permitting (e.g., replacement of window panes). Permittees are complying with Provision C.12.b via BASMAA's proactive participation in a project entitled "PCBs in Caulk." The project is administered by the San Francisco Estuary Partnership[5]. The project partners include BASMAA, the San Francisco Estuary Institute (SFEI), and a variety of consultants. Project funding was originally provided through a state Proposition 50 Coastal Nonpoint Source Pollution grant but was replaced by federal stimulus funds (American Recovery and Reinvestment Act of 2009 through the Clean Water State Revolving Fund). Consistent with the requirements of Provision C.12.b, the PCBs in Caulk project will:

- Evaluate PCB levels in caulk from at least 10 Bay Area sites to better understand which types/ages of buildings are most likely to have caulks with PCBs, so that management actions can be targeted effectively. Surveys previously conducted in Europe and other parts of North America have found sealants

[5]The San Francisco Estuary Partnership is a project of the Association of Bay Area Governments.

containing PCBs, sometimes in very high concentrations, in a large proportion of older buildings, particularly those built or renovated in the 1950's, 1960's and 1970's.

- Develop Best Management Practices (BMPs) and associated model policies or ordinances to prevent the release of PCBs from caulks into urban runoff during renovation, maintenance and demolition of Bay Area buildings. The project will build on work that was performed elsewhere and develop methods to identify, handle, contain, transport, and properly dispose of PCB-containing caulks.

- Test and evaluate the effectiveness of the proposed BMPs at three to five sites in the Bay Area and document which methods work best in our region and other lessons learned.

The long-term goal is for Bay Area municipalities to adopt policies or ordinances requiring construction sites to implement the management practices developed by this project, so that legacy caulks containing PCBs are prevented from polluting urban runoff and the Bay.

Appendix A8 contains the project work plan. BASMAA has approved a Regional Project that allows staff from member stormwater programs to dedicate time on behalf of all Permittees to working with the partnership's project team on implementing the project. The stormwater program staff report to and receive feedback and guidance from the BASMAA Monitoring and POCs Committee. The staff have fully participated in all facets of the project, including frequent project teleconferences, development of project work plans, review and commenting on all project deliverables (e.g., the Sampling and Analysis Plan described below), selection of a contractor to develop BMPs, a stakeholder meeting held July 15, 2010, and a public meeting held by EPA on July 22, 2010 on a proposed rulemaking related to relevant PCBs regulations.

Provision C.12.b's requirements include development of a Sampling and Analysis Plan (SAP) to evaluate PCBs at construction sites (including research on when, where, and which materials potentially contained PCBs). Submittal of the SAP is required in this 2010 Annual Report and Appendix A9 contains the SAP. It should be noted that the project has also prepared a Quality Assurance Project Plan (Appendix A10).

Provision C.12.b also requires that this 2010 Annual Report include a status report on the sampling and analysis along with whatever sampling results are available. The sampling and analysis has not yet commenced. Early in 2010 BASMAA representatives began attempting to obtain permission to access municipal properties to perform sampling and analysis and BMP implementation trials. This effort included contacting all Permittees through BASMAA e-mail distribution lists and speaking directly to individual representatives from a number of municipalities. In all cases the BASMAA representatives were informed that municipalities could not further consider providing access to their buildings and projects until they are provided with additional information, including the exact field methods that will be applied and the potential

consequences to municipal agencies that agree to participate in the field investigation. One particular concern is that EPA currently requires preparation of a cleanup plan and implementation of that plan if PCBs are found at a level exceeding 50 ppm in building materials such as caulks and sealants. The project is therefore preparing during the fall of 2010 a memorandum that will articulate the study methods and available information about potential consequences, including estimated costing information related to cleanup and proper disposal of PCB-laden materials. The sampling and analysis and BMP implementation trials are currently scheduled to commence in parallel near the end of calendar year 2010.

C.12.h Fate and Transport Study of PCBs in Urban Runoff

This MRP provision requires Permittees to conduct, or cause to be conducted, studies aimed at better understanding the fate, transport, and biological uptake of PCBs discharged in urban runoff. The 2010 reporting requirement includes a work plan describing the specific manner in which these information needs will be accomplished and describing the studies to be performed with a schedule. This requirement is met through participation in the RMP, which has approved a PCBs Synthesis project in 2011 (Appendix A11). The RMP Master Planning process incorporates several Strategies to address pollutant-specific information needs and support management decisions through investigation of prioritized Management Questions. The synthesis will combine noteworthy findings from recent Status and Trends monitoring and special studies to set the stage for a new multi-year plan for RMP studies in 2012 and beyond. Ongoing or projected future RMP efforts for the PCBs Strategy also include:

- Monitoring of mercury, PCBs and other pollutants in biota, both ongoing (Status & Trends) and in a special 3-year study of Small Fish living along the Bay margins that are an important link in the Bay food web (funded 2008-2010); and
- Development of conceptual models of transport and food web uptake for mercury and PCBs, and Bay Margin areas that will be incorporated with a planned water-sediment-contaminant model linking small tributary inputs to Bay processes.

BASMAA representatives will continue participating in RMP work groups and committees to ensure future implementation of studies that meet the MRP's stated information needs, which include understanding the in-Bay transport of PCBs discharged in urban runoff, the influence of urban runoff on the patterns of food web PCBs accumulation, and the identification of drainages where urban runoff PCBs are particularly important in food web accumulation.

COPPER CONTROLS (C.13)

C.13.c Vehicle Brake Pads

The MRP requires that Permittees report on legislation development and implementation status in Annual Reports during the permit term. Compliance is being

achieved through continued participation in the Brake Pad Partnership (BPP) process to develop California legislation phasing out copper from certain automobile brake pads sold in California.

Appendix A12, an "Investor's Circle Update" from Sustainable Conservation, provides a primer on the issue of copper from brake pad wear, the Brake Pad Partnership (BPP), and the control measure determined through the BPP to be the most appropriate for reducing copper emissions from brake pads: proposed legislation SB 346 (Kehoe) – Hazardous materials: motor vehicle brake friction materials. As described in the Update, SB 346 was introduced to the California legislature in early 2009 and, after passing out of the Senate and moving to the Assembly, was made a two-year bill in late June 2009.

In FY 2009-10, Permittees' efforts focused on:

1. Researching and providing information to assist with bill language;
2. Helping the bill's sponsors to further develop the bill language to address concerns raised by industry representatives from the auto and brake pad manufacturers, brake pad wholesalers and retailers, and car dealers; and
3. Advocating for passage of the bill by the Assembly Environmental Safety and Toxic Materials (Toxics) Committee.

The above activities were coordinated through the California Stormwater Quality Association (CASQA) BPP Team, a group of stormwater quality agencies affected by copper or metals listings, TMDLs, or permit requirements. Permittees participated in the process through BASMAA representation on the BPP team and supported SB346 with letters and lobbying efforts.

The language of SB 346 as of the end of FY 2009-10, two fact sheets on the bill, and BASMAA's letter of strong support for SB 346 to the Assembly Toxics Committee are provided in Appendices A13, A14, A15 and A16, respectively.

C.13.d. Industrial Sources

Provision C.13.d requires Permittees to identify facilities likely to use copper or have sources of copper (e.g., plating facilities, metal finishers, auto dismantlers) and include them in their inspection program plans. Additionally, Permittees are required to educate industrial inspectors on industrial facilities likely to use copper or have sources of copper and proper Best Management Practices (BMPs).

As part of the regional project described under Provision C.12.a, BASMAA developed training materials in FY 2009-10 to assist Permittees in complying with Provision C.13.d. Specifically, draft training materials were for developed to assist Permittees in training commercial/industrial facility stormwater inspectors to identify PCBs, copper and mercury during their inspections, and provide inspectors with useful BMPs and information materials for distribution to facility owners/operators. Results of training

conducted by Permittees in FY 2009-10 are included in Permittee-specific Annual Reports.

C.13.e Studies to Reduce Copper Pollutant Impact Uncertainties

This MRP provision requires Permittees to conduct, or cause to be conducted, technical studies to investigate possible copper sediment toxicity and technical studies to investigate sub-lethal effects on salmonids. These uncertainties regarding copper effects in the Bay are described in the amended Basin Plan's implementation program for copper site-specific objectives.

The MRP reporting requirement for 2010 includes description of the specific manner in which these information needs will be accomplished and of the studies to be performed with a schedule. The information needs will be filled by RMP studies coordinated through the Exposure Effect Work Group (EEWG). The RMP Master Plan (currently under development) lists EEWG priorities for the next 5 years, including effects on benthos and fish. EEWG efforts on benthos in 2011 will focus on completion of studies from prior years that include development of methods and tools for identifying the causes of sediment toxicity, followed by development of long-term plans for 2012 and beyond.

Copper impacts to the olfactory system of salmonids have been found in freshwater experiments, where short-term exposure to increased copper reduced response to alarm odors, and affected predator-avoidance behavior of young coho salmon. A special study approved for 2011 (Appendix A17) will use similar experimental methods on young Chinook salmon in saltwater.

BASMAA representatives will continue participation in the EEWG and the Benthos work groups as needed to ensure that the developing work plans include appropriate follow-up studies in these two areas.

PBDES, LEGACY PESTICIDES, AND SELENIUM (C.14)

C.14.a Control Program for PBDEs, Legacy Pesticides, and Selenium.

This MRP provision requires the Permittees to work with the other municipal stormwater management agencies in the Bay Region to identify, assess, and manage controllable sources of polybrominated diphenyl ethers (PBDEs), legacy pesticides, and selenium found in urban runoff. The reporting requirement for 2010 is to describe progress towards the following MRP implementation objectives:

C.14.a.ii. Implementation Level – The PBDEs/Legacy Pesticides/Selenium Plan shall include actions to do the following:
Characterize the representative distribution of PBDEs, legacy pesticides, and selenium in the urban areas of the Bay Region covered by this permit to determine:

(1) If PBDEs, legacy pesticides, and selenium are present in urban runoff;
(2) If PBDEs, legacy pesticides, or selenium are distributed relatively uniformly in urban areas; and
(3) Whether storm drains or other surface drainage pathways are sources of PBDEs, legacy pesticides, or selenium in themselves, or whether there are specific locations within urban watersheds where prior or current uses result in land sources contributing to discharges of PBDEs, legacy pesticides, or selenium to San Francisco Bay via urban runoff conveyance systems.

The 2012 Annual Report will provide the results of the above characterization and information necessary to calculate loads of these pollutants in stormwater. The 2013 Annual Report will Identify control measures and/or management practices to eliminate or reduce discharges of these pollutants from urban runoff conveyance systems.

Legacy organochlorine (OC) pesticides (e.g. DDT, dieldrin and chlordane), PBDEs, and selenium are either known to impair or potentially impair Bay and tributary beneficial uses. The Water Board is planning or developing TMDLs for each of these groups of pollutants: Selenium in the North Bay and for all parts of the Bay for PBDES and legacy OC pesticides.

The Permittees will address this provision through a BASMAA Regional Project that will compile existing monitoring data from multiple sources including:

- Reconnaissance characterization and Pollutant of Concern Loads Monitoring as described for Provision C.8.e under Water Quality Monitoring below.
- Local tributary monitoring by the RMP, including Coyote Creek and Guadalupe River, and more recent data on PBDEs and OC pesticides at Zone 4 Line A in Hayward; some samples were also analyzed for selenium in winter 2010.
- Previous BASMAA agency sampling for OC pesticides in storm drain sediments conducted through the Joint Stormwater Agency Project.

In FY 2009-10 BASMAA representatives participated in the RMP's Sources Pathways and Loadings Work Group and Small Tributaries Loading Strategy (STLS) Team to guide RMP sampling and to design future stormwater sampling for both the RMP and MRP Permittees under Provision C.8.e.

WATER QUALITY MONITORING

Provision C.8 of the MRP requires Permittees to conduct water quality monitoring and associated projects during the permit term. All water quality monitoring activities required by Provision C.8 are coordinated regionally through the BASMAA Regional Monitoring Coalition (RMC). Scopes and budgets for specific RMC monitoring projects are proposed for BASMAA Board of Directors (BOD) approval by the BASMAA Monitoring and Pollutants of Concern Committee (MPC). Many were approved as Regional Projects by the BOD during FY 2009-10. Others are planned to begin in FY 2010-11 or subsequent fiscal years based on schedules outlined in the MRP.

This portion of the Regional Supplement provides a status report on water quality monitoring activities/projects coordinated through the RMC in FY 2009-10 and briefly describes RMC projects planned to occur in future fiscal years. Activities described herein were conducted on behalf of all RMC participants, and in full compliance with Provision C.8 of the MRP. Summaries of the following C.8 sub-provisions are included in this section:

- Compliance Options (C.8.a)
- San Francisco Estuary Receiving Water Monitoring (C.8.b)
- Creek Status Monitoring (C.8.c)
- Monitoring Projects (C.8.d)
- Pollutants of Concern and Long-Term Trends Monitoring (C.8.e)
- Citizen Monitoring and Participation (C.8.f)
- Reporting (C.8.g)
- Monitoring Protocols and Data Quality (C.8.h)

C.8.a Compliance Options

Provision C.8.a (Compliance Options) of the MRP allows Permittees to address monitoring requirements through a "regional collaborative effort" (e.g., RMC), its' Stormwater Program, and/or individually. The regional collaborative effort option is only available if a majority of MRP Permittees agree to participate. If the regional monitoring collaborative option is selected, participants must formally notify to the Water Board in writing by July 1, 2010 and their water quality data collection required by Provision C.8 must commence by October 2011. If the stormwater program or Permittee option is selected, monitoring efforts are required to commence by October 2010. This one-year extension for the regional collaboration option is due to the time and resources needed to develop a regional monitoring collaborative.

In June 2010, Permittees notified the Water Board in writing of their agreement to participate in a regional monitoring collaborative to address requirements in Provision C.8[6]. The regional monitoring collaborative is referred to as the BASMAA Regional

[6] The Cities of Antioch, Brentwood and Oakley, although not named as Permittees under the MRP, have voluntarily elected to participate in the RMC.

Monitoring Coalition (RMC). With notification of participation in the RMC, participating Permittees are required to commence water quality data collection by October 2011. Therefore, with the exception of monitoring described in this section under Provision C.8.b (SF Bay Receiving Water Monitoring), Permittee efforts in FY 2009-10 described in this section were generally focused on the development of the RMC and associated near-term projects.

BASMAA Regional Monitoring Coalition (RMC)

The RMC is a collaboration of San Francisco Bay Area stormwater programs and associated Permittees focused on effectively and efficiently developing and implementing a regionally coordinated water quality monitoring program that will improve stormwater management in the region. The goals of the RMC are to:

- Assist Permittees in complying with requirements in MRP Provision C.8 (Water Quality Monitoring);
- Develop and implement regionally consistent creek monitoring approaches and designs in the Bay Area, through the improved coordination among RMC participants and other agencies (e.g., Water Board) that share common goals; and
- Stabilize the costs of creek monitoring by reducing duplication of effort and streamlining reporting.

Through its implementation, the RMC allows Permittees and the Water Board to effectively modify their existing creek monitoring programs, which improves their ability to collectively answer core management questions in a cost effective and scientifically rigorous way. Participation in the RMC is coordinated by stormwater program and or Permittee representatives (or equivalent), and facilitated through the BASMAA Monitoring and Pollutants of Concern Committee (MPC), which meets monthly.

To guide implementation of the RMC over the term of the MRP, stormwater program representatives developed a Draft RMC Work Plan (Draft RMC Work Plan) in FY 2009-10 (see Appendix B1). Applicable management questions, descriptions of over 30 RMC monitoring projects, and associated project schedules are included in the Draft RMC Work Plan. Monitoring projects described in the Draft RMC Work Plan that were approved by the BOD and begun in FY 2009-10 include:

- Creek Status and Long-Term Trends Monitoring Standard Operating and Data Quality Assurance Procedures
- Creek Status and Long-Term Trends Standard Contract Language and Reporting Formats
- Multi-Year Pollutants of Concern (POC) Sampling Plan
- POC Standard Operating and Quality Assurance Procedures
- POC Laboratory Standard Contract Language and Reporting Formats
- POC Monitoring Information Management System Development
- POC Information Management and Quality Control
- Sediment Estimate Budget Development

Additional RMC monitoring projects described in the Draft RMC Work Plan are being considered for approval as Regional Projects by the BOD in FY 2010-11 and for future fiscal years through annual planning. Status reports on RMC projects that began in FY 2009-10 are included under the applicable MRP C.8 provision in this report.

C.8.b San Francisco Estuary Receiving Water Monitoring

As described in Provision C.8.b, Permittees are required to contribute their fair-share financially on an annual basis towards implementing an Estuary receiving water monitoring program that at a minimum is equivalent to the Regional Monitoring Program for Water Quality in the San Francisco Estuary (RMP). During FY 2009-10, Permittees complied with this provision by making financial contributions to the RMP directly or through stormwater programs (Appendix B2). Additionally, Permittees actively participated in RMP committees and work groups through Permittee and/or stormwater program staff as described below. The following sections provide a brief description of the RMP, associated monitoring activities conducted in FY 2009-10, and Permittee participation RMP committees and work groups.

Regional Monitoring Program (RMP)

The Regional Monitoring Program for Water Quality in the San Francisco Estuary is a long-term monitoring program that shares financial support, direction, and participation by regulatory agencies and the regulated community with the goal of assessing water quality in the San Francisco Bay. The regulated community includes Permittees, publicly owned treatment works (POTWs), dredgers and industrial dischargers. The RMP is intended to answer the following core management questions:

- Are chemical concentrations in the Estuary potentially at levels of concern and are associated impacts likely?
- What are the concentrations and masses of contaminants in the Estuary and its segments?
- What are the sources, pathways, loadings, and processes leading to contaminant related impacts in the Estuary?
- Have the concentrations, masses, and associated impacts of contaminants in the Estuary increased or decreased?
- What are the projected concentrations, masses, and associated impacts of contaminants in the Estuary?

The RMP budget is generally broken into two major program elements: Status and Trends, and Pilot/Special Studies. The following paragraphs provide a brief overview of these programs.

RMP Status and Trends Monitoring Program

The Status and Trends Monitoring Program (S&T Program) is the long-term contaminant-monitoring component of the RMP. The S&T Program was initiated as a pilot study in 1989 and redesigned in 2007 based on a more rigorous statistical design that enables

the detection of trends. In FY 2009-10, the S&T Program was comprised of the following program elements that collect data to address RMP management questions described above:

- Water/Sediment/Biota Chemistry and Toxicity Monitoring
- Sediment Benthos Monitoring
- Small and Large Tributary Loading Studies
- Small Fish and Sport Fish Contamination Studies
- Studies to Determine the Causes of Sediment Toxicity
- Suspended Sediment, Hydrography and Phytoplankton Monitoring
- Bird Egg Monitoring

Additional information on the S&T Program and associated monitoring data are available for downloading via the RMP website using the Status and Trends Monitoring Data Access Tool at www.sfei.org/rmp/data.htm.

RMP Pilot and Special Studies
The RMP also conducts Pilot and Special Studies (P/S Studies) on an annual basis. Studies usually are designed to investigate and develop new monitoring measures related to anthropogenic contamination or contaminant effects on biota in the Estuary. Special Studies address specific scientific issues that RMP committees and standing workgroups identify as priority for further study. These studies are developed through an open selection process at the workgroup level and selected for funding through RMP committees. Results and summaries of the most pertinent P/S Studies can be found on the RMP website (www.sfei.org/rmp/).

Participation in Committees, Workgroups and Strategy Teams
In FY 2009-10, Permittees actively participated in the following RMP committees and work groups:

- Steering Committee (SC)
- Technical Review Committee (TRC)
- Sources, Pathways and Loadings Workgroup (SPLWG)
- Contaminant Fate Workgroup (CFWG)
- Exposure and Effects Workgroup (EEWG)
- Emerging Contaminant Workgroup (ECWG)
- Sport Fish Monitoring Workgroup
- Toxicity Workgroup
- Strategy Teams (e.g., PCBs, Mercury, Dioxins, Small Tributaries)

Committee and workgroup representation was provided by Permittee, stormwater program staff and/or designees that were agreeable to RMC participants and the BASMAA Board of Directors (BOD). Representation included participating in meetings, reviewing technical reports and work products, co-authoring articles included in the RMP's Pulse of the Estuary, and providing general program direction to RMP staff. Representatives of the RMC also provided timely summaries and updates to, and

received input from stormwater programs representative (on behalf of Permittees) during MPC and/or BOD meetings to ensure Permittees interests were adequately represented.

C.8.c Creek Status Monitoring

Provision C.8.c requires Permittees to conduct creek status monitoring that is intended to answer the following management questions:

1. Are water quality objectives, both numeric and narrative, being met in local receiving waters, including creeks, river and tributaries?
2. Are conditions in local receiving waters supportive of or like supportive of beneficial uses?

Creek status monitoring parameters, methods, occurrences, durations and minimum number of sampling sites for each stormwater program are described in Table 8.1 of the MRP. Based on the implementation schedule described in MRP Provision C.8.a(ii), Permittees were not required to conduct creek status monitoring in FY 2009-10. Alternatively, Permittee and stormwater program staff (on behalf of Permittees) spent considerable time identifying and scoping RMC projects included in the Draft RMC Work Plan. Planning efforts conducted in FY 2009-10 were intended to assist Permittees in designing and implementing a regional creek status monitoring program that will allow each stormwater program to assess the status of local water bodies, while contributing data to answering regional questions about water quality and beneficial use condition in all Bay Area creeks.

As described in the RMC Draft Work Plan, most creek status monitoring tasks will begin in FY 2010-11, with the exception of standard operating and data quality assurance procedure development, which is described under Provision C.8.h in this report. Additional information on the status of RMC tasks associated with Provision C.8.c (Creek Status Monitoring) will be included in future Annual Reports.

C.8.d Monitoring Projects

Three types of monitoring projects are required by Provision C.8.d of the MRP: 1) Stressor/Source Identification (C.8.d.i); 2) BMP Effectiveness Investigation (C.8.d.ii); and 3) Geomorphic Project (C.8.d.iii). Based on the compliance schedules described in the MRP for these provisions, in FY 2009-10 Permittees focused mostly on scoping future collaborative RMC projects associated with these requirements. These projects are generally described in the Draft RMC Work Plan (see Appendix B1) and will be implemented in future fiscal years.

C.8.e Pollutants of Concern and Long-Term Trends Monitoring

POC Loads Monitoring

Pollutants of Concern (POC) loads monitoring is required by Provision C.8.e (i) of the MRP. Loads monitoring is intended to assess inputs of POCs to the Bay from local tributaries and urban runoff, assess progress toward achieving wasteload allocations (WLAs) for TMDLs, and help resolve uncertainties associated with loading estimates for these pollutants. In particular, there are four priority management questions that need to be addressed though POC loads monitoring:

1. Which Bay tributaries (including stormwater conveyances) contribute most to Bay impairment from POCs;
2. What are the annual loads or concentrations of POCs from tributaries to the Bay;
3. What are the decadal-scale loading or concentration trends of POCs from small tributaries to the Bay; and
4. What are the projected impacts of management actions (including control measures) on tributaries and where should these management actions be implemented to have the greatest beneficial impact.

Based upon compliance schedules described in MRP Provision C.8.a(ii), participants of the RMC are required to begin POC loads monitoring in October 2011. Therefore, RMC participant activities associated with POC loads monitoring during FY 2009-10 were generally spent preparing for monitoring in future years. More specifically, Permittees continued to monitor POC loads via the RMP (i.e., Zone 4 – Line A) and began exploring alternative approaches to POC loads monitoring prescribed in Provision C.8.e. As described below, Permittee exploration of alternative approaches occurred through the RMP's Small Tributary Loading Strategy (STLS) Team, which includes RMC representatives, Water Board staff, RMP staff and technical advisors.

Small Tributaries Loading Strategy (STLS)

To assist Permittees in effectively and efficiently conducting POC loads monitoring required by the MRP and answer POC loads management questions , a draft Small Tributaries Loading Strategy (STLS) was developed in 2009 by the STLS Team (Appendix B3). The objective of the STLS is to develop a comprehensive planning framework for POC loads monitoring/modeling within which associated activities conducted via the RMP and monitoring by Permittees in compliance with the MRP will be complementary.

FY 2009-10 STLS Projects

Consistent with the STLS, POC loads monitoring continued at one station and special studies designed inform future loads monitoring were conducted via the RMP in FY 2009-10. More specifically, the following three RMP special studies related to POC loads monitoring began/continued in FY 2009-10:

- Small Tributaries Loads Monitoring – Loads monitoring continued in Zone 4-Line A, a small flood control channel located in Hayward that drains to the Bay. The watershed draining to the monitoring site is highly impervious and comprised of mostly industrial land use. Fiscal Year 2009-10 served as the fourth year of monitoring at this site.
- Watershed Categorization - The STLS Team conducted a desktop study in FY 2009-10 that categorized watersheds into different "types" based on a variety of watershed characteristics (e.g., land use, imperviousness, area, sediment loading, and contaminant history). The goal of this study was to assist the RMP and Permittees in selecting groups of tributaries where POC loads monitoring will occur.
- Sampling Methods Comparison - This study evaluated a variety of POC loads sampling methods, including currently employed RMP sampling methods (e.g., turbidity surrogate) and MRP default sampling methods (i.e., flow-weighted composite), in an effort to develop recommendations on the most cost effective methods that could be employed Permittees and still adequately address POC loads management questions.

Results of these studies are currently in draft form and will be finalized by early 2011. Additional STLS studies that began in FY 2009-10 include the initial development of a spreadsheet model designed to estimate POC loads from specific watersheds to the Bay, and scoping the need for the development of Event Mean Concentrations (EMCs) for specific POCs. These studies/projects are planned to be completed in FY 2010-11 via the RMP and intended to provide additional tools to assist Permittees in answering POC loads management questions.

FY 2010-11 Projects

In addition to STLS projects mentioned above that will continue in FY 2010-11, an additional related project will also begin in late 2010. As an alternative to conducting long-term POC loads monitoring at bottom of watershed locations (e.g., Zone 4 – Line A), the STLS Team agreed that the RMP should conduct a geographically broader study in FY 2010-11 to characterize POC concentrations in a number of small tributaries in the Bay Area. The STLS Team is currently developing the full scope of the study, but it will generally be designed to further assist Permittees in selecting POC loads monitoring sites. The project will occur early in the FY 2010-11 wet weather season (October 2010 – April 2011) and entail the collection and analysis of POCs in water from between 15 and 20 small tributaries during one or two storms. The proposed list of POC analytes for this reconnaissance includes PCBs, total mercury, PBDEs, and polycyclic aromatic hydrocarbons (PAHs). A report documenting the results of the characterization study is planned for completion in early 2011.

All FY 2009-10 and FY 2010-11 STLS studies described above are intended to assist Permittees in complying with Provision C.8.e through alternative approaches to those prescribed in the MRP. Based on the results of these studies and Permittee input, RMC participants may choose to propose an alternative approach to POC loads monitoring to the Water Board's Executive Officer (EO). If an alternative approach is agreed to

among RMC participants, an *RMC Multi-Year POC Loads Monitoring Plan* (POC Loads Monitoring Plan) documenting the alternative approach will be submitted to the Water Board EO for approval prior to commencement of POC loads monitoring required by the MRP (October 2011). The POC Loads Monitoring Plan will include the rationale for the choice of sampling locations and methods (i.e., number and type of samples, number of storms, and recurrence interval for sampling).

Long-Term Trends Monitoring

In addition to POC loads monitoring, Provision C.8.e requires Permittees to conduct long-term trends monitoring to evaluate if stormwater discharges are causing or contributing to toxic impacts on aquatic life. Required long-term monitoring parameters, methods, intervals and occurrences are included in Table 8.4 of the MRP and prescribed long-term monitoring locations are included in Table 8.3. Applying MRP Provision C.8.a in a manner similar to that described above for creek status and POC loads monitoring, long-term trends monitoring is scheduled to begin in October 2011 for RMC participants.

The State of California's Surface Water Ambient Monitoring Program (SWAMP) through its Statewide Stream Contaminant Trend Monitoring Program currently monitors the seven long-term monitoring sites required by Provision C.8.e.ii, at the sampling occurrence and interval described in Provision C.8.e.iii in the MRP. Although a long-term trends design for creeks will likely be included in the design of the RMC creeks monitoring design, at this time, RMC participants continue to assume that SWAMP will continue to conduct long-term monitoring at a level of effort necessary to comply with the long-term trends requirement in the MRP (as allowed by Provision C.8.e.ii). In FY 2010-11, RMC representatives will confirm that SWAMP will continue the current level of effort of this program in future years and plan accordingly.

Sediment Delivery Estimate/Budget

Provision C.8.e(vi) of the MRP requires Permittees to develop a design for a robust sediment delivery estimate/sediment budget in local tributaries and urban drainages, and implement the study by July 1, 2012. The purpose of the sediment delivery estimate is to improve the Permittees' ability to estimate urban runoff contributions to loads of POCs, which are generally closely associated with sediment. To determine a strategy for a robust sediment estimate/budget, the BASMAA Board of Directors (BOD) approved a Regional Project in FY 2009-10 to begin reviewing current sediment delivery estimates, better define the objectives for improvement and determine what additional work is needed in FY 2010-11. Tasks that may be coordinated through the RMC include: 1) updating sediment delivery estimates recently completed via the RMP by incorporating an improved watershed boundaries dataset, that will also be the basis for future spreadsheet modeling of POC loads under the STLS; 2) listing potential data needs and the extent to which they will be filled through the STLS and MRP creek monitoring; and 3) identifying methods and a schedule for incorporating the above to produce a robust estimate/budget. Additional information on the status of this project will be included in the FY 2010-11 Annual Report.

Emerging Pollutants Work Plan

In compliance with Provision C.8.e.v, Permittees are required by March 2014 to develop a work plan and schedule for initial loading estimates and source analyses for the following emerging pollutants: 1) endocrine-disrupting compounds; 2) PFOS/PFAS (Perfluorooctane Sulfonates (PFOS); 3) Perfluoroalkyl Sulfonates (PFAS); and 4) and NP/NPEs (nonylphenols/nonylphenol esters —estrogenlike compounds). The intent of the work plan is to begin planning for implementation during the next permit term (i.e., post December 2014). Because the compliance date for completion of this work plan is over four years into the future, only initial discussions of the scope of this project were discussed in FY 2009-10 by the MPC. BASMAA Representatives t the RMP will coordinate efforts with the Emerging Contaminants Strategy being developed by the RMP through the Master Planning process. Additional information on the status of this project will be provided in subsequent Annual Reports.

C.8.f Citizen Monitoring and Participation

Participants of the RMC, to varying degrees, currently coordinate with or support citizen monitors within their geographical areas. As a result, relationships have been developed between RMC participants and citizen monitors. In FY 2009-10, Permittees began to plan for future coordination with citizen monitors in their respective geographical areas. Information sharing among RMC participants about activities designed to encourage citizen monitoring is planned to occur in FY 2010-11 and future years at MPC meetings.

C.8.g Reporting

Provision C.8.g requires Permittees to report annually on water quality data collected in compliance with the MRP. Annual reporting requirements include: 1) water quality standard exceedances; 2) creek status monitoring electronic reporting; and 3) urban creeks monitoring reporting. For RMC participants, annual reporting requirements begin following monitoring which is scheduled to commence in October 2011. Therefore, reporting of water quality monitoring data collected in compliance with the Provision C.8 of the MRP is not required in this FY 2009-10 Annual Report.

In preparation for the development of future annual reports described above, and less frequent reporting requirements included in Provisions C.8.g.iv (Monitoring Project Reports) and C.8.g.v (Integrated Monitoring Report), the Draft RMC Work Plan describes projects planned for implementation in future fiscal years. These projects include: 1) standardized reporting templates for creek status electronic reporting; 2) model annual urban creeks monitoring report templates; and 3) reporting templates and outlines for the integrated monitoring report due near the end of the permit term.

C.8.h Monitoring Protocols, Data Quality and Data Management

Provision C.8.h requires that water quality data collected by Permittees in compliance with the MRP should be of a quality that is consistent with the State of California's Surface Water Ambient Monitoring Program (SWAMP) standards, set forth in the SWAMP

Quality Assurance Project Plan (QAPP). To assist Permittees in meeting SWAMP data quality standards and developing data management systems that allow for easy access of water quality monitoring data by Permittees, the RMC began scoping and/or implementing regional projects in FY 2009-10. These include:

- Standard Operating and Data Quality Assurance Procedures – Two projects designed to address monitoring protocols and data quality requirements described in Provision C.8.h were approved by the BOD in FY 2009-10. The first entails the development of a new field standard operating procedure (SOP) and quality assurance project plan (QAPP) for POC loads monitoring. The SOP and QAPP will be completed in FY 2010-11 once a final sampling methodology for POC loads monitoring is agreed to by RMC participants (see POC Loads Monitoring discussion). The second project entails the adaptation of existing creek status monitoring SOPs and QAPP developed by SWAMP or creation of new SOPs, as necessary, that document the field procedures necessary to maintain comparable and high quality data region-wide. The project is also scheduled for completion in FY 2010-11.
- Information Management System Development/Adaptation – As described in the Draft RMC Work Plan, participants would like to store and manage water quality data collected in compliance with Provision C.8 in a cost effective manner that allows data users to easily access and query data and information. Therefore, in FY 2009-10 the RMC began scoping a series of Regional Projects that are scheduled to begin in FY 2010-11 and designed to develop new or adapt existing Information Management Systems (IMSs) for use by the RMC. The goal of these projects is to provide standardized data storage formats, thus providing a mechanism for sharing data among RMC participants. MRP Provision C.8.e.vi requires Permittees to develop a design for a robust sediment delivery estimate/sediment budget in local tributaries and urban drainages, and implement the study by July 1, 2012. The purpose of the sediment delivery estimate is to improve the Permittees' ability to estimate urban runoff contributions to loads of Pollutants of Concern, which are generally closely associated with sediment.

ACRONYMS AND ABBREVIATIONS

BASMAA	Bay Area Stormwater Management Agencies Association
BMP	Best Management Practice
BOD	Board of Directors (of BASMAA)
CASQA	California Stormwater Quality Association
CW4CB	Clean Watersheds for a Clean Bay (BASMAA project)
MPC	Monitoring and Pollutants of Concern Committee (of BASMAA)
MRP	Municipal Regional Stormwater Permit (NPDES)
NPDES	National Pollutant Discharge Elimination System
PBDEs	Polybrominated Diphenyl Ethers
PCBs	Polychlorinated Biphenyls
POCs	Pollutants of Concern
POTWs	Publicly Owned Treatment Works
RMP	Regional Monitoring Program for Water Quality in the San Francisco Estuary
RMC	BASMAA Regional Monitoring Coalition
SFEI	San Francisco Estuary Institute
STLS	Small Tributaries Loading Strategy (of the RMP)
TMDL	Total Maximum Daily Load
Water Board	San Francisco Bay Regional Water Quality Control Board
WLAs	Wasteload Allocations (in TMDLs)